

consisting of an  $\text{Al}_{0.20}\text{Ga}_{0.80}\text{As}$  acting as a light emitting layer (active layer) and an  $\text{Al}_{0.5}\text{Ga}_{0.5}\text{As}$  layer acting as a barrier layer (clad layer) on a GaAs substrate, to give red light emission. Optical devices of this kind have a characteristic that the overflow of injected electrons and holes is suppressed by a large potential barrier owing to band gap discontinuity obtained by hetero junction. Consequently, high light emitting efficiency can be attained. Though optical devices are exemplified for illustrations in the above, in addition to them, electronic devices such as HBT(hetero junction bipolar transistors) and HEMT(high electron mobile transistors) also have a laminated structure of epitaxial crystal layers of 3-5 group compound semiconductor on a GaAs substrate.

Please replace the paragraph beginning on page 2, line 17, with the following rewritten paragraph:

-Therefore, various methods for lowering dislocation density of GaAs substrates have been conventionally tried, such as a method of decreasing heat stress, namely, temperature gradient, in the production of a GaAs substrate, a method of increasing critical shearing stress, and the like.

Please replace the paragraph beginning on page 5, line 13, with the following rewritten paragraph:

-Fig. 1 is a sectional view showing one embodiment of an optical device according to the invention. The thin film crystal